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POVERTY, DEVELOPMENT, AND BEHAVIORAL ECONOMICS

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In the last two decades, questioning of the textbook model of individual choice behavior has accelerated. "Imperfections" of individual choice behavior are increasingly accepted by the profession as viable empirical phenomena to be explained and incorporated. Non-standard objectives and decision making—procrastination; overweighting low probability outcomes; focus on changes from current wealth as a reference point; choice between two alternatives depending on which is presented as the default option; willingness to sacrifice return for fairness of process or outcome, etc—have been investigated theoretically, empirically, and experimentally. The award of Nobel Prizes to Daniel Kahneman and Vernon Smith (2002), of the Clark Medal to Matthew Rabin (2001), Esther Duflo (2010), and Raj Chetty (2013), and of the MacArthur Award to Michael Kremer (1997), Sendhil Mullainathan (2002), Esther Duflo (2009), and Raj Chetty (2012), have confirmed the recognition of behavioral economics as an important new departure in economics.

The insights of behavioral economics have begun to be applied to development economics and in particular to the behavior of poor households in poor economies. Does poverty promote departures from the standard textbook model of rational choice? Are the departures from conventional models different in developing countries than in developed economies and are they possibly also more important when the decision makers are poor? Do such departures in turn promote poverty and hold back development and growth? And what policy interventions are appropriate for growth and poverty reduction in such a world? The importance of these questions is self evident. It is giving rise to a still small but growing and vibrant literature which incorporates experiments, new theorizing,

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and new ways of interpreting econometric evidence. In particular, experiments in the field and in the laboratory, drawing on the traditions in medicine and in psychology, have added a new dimension to empirical testing and validation in development economics. The new evidence triggers new theorizing, which in turn calls for new testing.

In recognition of the new frontiers being opened up and explored in this area, the United Nations University World Institute for Development Economics Research (UNU-WIDER) organized a conference to take stock of current knowledge, to draw out the major policy implications, and to chart promising areas for research.[1] The conference coverage was wide ranging, focusing on poverty but with the perspective of development economics broadly construed. Papers included contributions to theory, experimental methods, and econometric analysis. Paper presenters were invited to submit papers to the journal in the normal way, and this Special Issue brings together papers that were accepted after the peer review process of the journal.

The eight papers in this Special Issue all share the objective of exploring the consequences for the analysis of poverty and development of broadening the perspective on economic behavior beyond the standard textbook model of rational choice. In the limited space available, the coverage of topics cannot of course be as broad as it was at the conference itself, but some of the central issues are indeed broached in the papers in this Special Issue. The papers cover *inter alia* the topics of behavioral design, savings, social networks, contracts, cooperation, and inequality and poverty.

The opening paper, "Behavioral Design: A New Approach to Development Policy" by Saugato Datta and Sendhil Mullainathan, sets the stage by drawing out the implications of behavioral economics for how we think about the economics of development and development policy (Datta and Mullainathan, 2013). At the core is a new way of conceptualizing the contribution of behavioral economics, as emphasizing the scarcity of a resource ignored by conventional theories of rational choice. This is the scarcity of *mental* resources—attention, understanding, and cognitive capacity are not infinite, nor is self-control unlimited. These features of the human mind explain behavior which would otherwise appear "irrational" in terms of standard theory. It can explain why farmers weed less than they should (because it is tedious and easy to postpone), why people save more when reminded about their own previously stated goals (because it overcomes lack of attention), why standard financial literacy programs do not work (because they strain cognitive capacity), or why oral rehydration therapy is underused (because it is not fully understood).

With this background the authors propose design principles for intervention, including reducing the need for self-control (e.g., by making payments in smaller units rather than in large sums), the use of commitment devices to overcome self-control problems (e.g., by providing restrictive bank accounts), choosing default options intelligently (e.g., making automatic transfer into a saving account

[1]The conference was held in Helsinki, Finland, on September 1–2, 2011. UNU-WIDER acknowledges the financial contributions to the research program from the governments of Denmark, Finland, Sweden, and the U.K.

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the default option), recognizing the power of micro-incentives (e.g., giving a small amount of grain as a reward when a child is brought to an immunization centre), not being shy of continual reminders (e.g., to make deposits into savings accounts) or paying attention to the framing of government messages (e.g., emphasizing what people lose by not participating in a program rather than by stating what they gain). Datta and Mullainathan clearly establish the large potential gains to policy analysts and policy makers in developing countries from taking on board the surge of behavioral economics. They argue that the next step is, indeed, to strive to achieve behaviorally-motivated impacts at a greater scale.

It is not surprising that savings are highlighted by Datta and Mullainathan in their paper, given the importance of the topic in development. The second paper in this Special Issue, "Savings By and For the Poor: A Research Review and Agenda," by Dean Karlan, Aishwarya Ratan, and Jonathan Zinman, is devoted entirely to the savings question, focusing on the insights that a behavioral perspective can provide to analysts and policy makers (Karlan *et al.*, 2013). The paper investigates five types of constraints on savings in poor countries—transaction costs, lack of trust, information gaps, social barriers, and a range of behavioral biases. The authors review what is known and set out a research agenda for the future.

Thus, on transactions costs, it is argued that we do not know with confidence the long term effects of subsidies to savings, even though the arguments for them often hinge on overcoming the initial fixed costs and forming the habit of savings. While lack of trust has been identified as a key hindrance to saving through the formal system, the authors contend that we do not know how to address this; for example, we need empirical evidence on the impact of referral through peers. Like Datta and Mullainathan in their paper, Karlan *et al.* also emphasize the importance of simplifying financial literacy programs to increase their effectiveness, but they point out that we need to investigate the features of successful cases in greater detail—content, length, pedagogy, the nature of delivery, and which member of the household the program is delivered to. On social constraints, while the literature shows that commitment devices in savings enhance women's ability to resist family pressures, we need to know more about how exactly household savings decisions are made and how the availability of commitment devices affects broader norms of sharing through social networks. Finally, the authors argue that while behavioral biases have begun to be understood in isolation, we need to know more about which of these are most important for savings, and how the different biases interact with each other—for example, how do upfront information or other decision aids interact with default options of commitment devices?

The next three papers in the Special Issue represent detailed and specific investigations of issues raised in the first two papers of the Special Issue. "Social Capital, Network Effects, and Savings in Rural Vietnam," by Carol Newman, Finn Tarp, and Katleen van den Broeck, continues the theme of savings, focusing on information failures and social networks (Newman *et al.*, 2013). Linkage to social networks (social capital) is measured in the paper through active participation in the Women's Union in rural Vietnam. It is shown, after carefully addressing a range of econometric issues, that membership in a highly connected network leads to higher savings and better use of such savings. One policy conclusion is that

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transmission of information on savings products through organizations like the Women's Union could be an effective channel for enhancing savings in rural areas. Another is to make sure that the quality of information disseminated via these informal channels is sufficiently high.

The issue of trust is present not only in savings behavior, but more broadly in contracting. Formal contracts, with third party enforcement through courts, are of course subject to social norms of enforcement and there is a literature exploring these. But many contracts are formally non-enforceable because the institutions of enforcement do not exist. And yet such contracts exist. Are they simply "cheap talk"? An alternative, behavioral, perspective is that people may regard fulfillment of such contracts as a moral obligation, independently of the balance between the selfish benefits (immediate gain) and selfish costs (reputational loss for the future). The fourth paper in the Special Issue, "Do Non-Enforceable Contracts Matter? Evidence from an International Lab Experiment," by Alexander W. Cappelen, Rune J. Hagen, Erik Ø. Sorensen, and Bertil Tungodden, explores the question through a version of the trust game involving loan repayments, played with participants in Norway and in Tanzania (Cappelen *et al.*, 2013). The presence of subjects from two countries with extremely different income levels offers an interesting opportunity to examine differences in, for example, the extent of maintaining non-binding obligations. The authors find that across these different settings different elements of the contract have no effect on repayment, which thus appears to be motivated by non-self-regarding moral motives. Similar moral motives were present among both Norwegian and Tanzanian participants.

A different aspect of trust and cooperation is studied in the fifth paper in the Special Issue, "Aid Distribution and Cooperation in Unequal Communities," by Ben D'Exelle and Marrit van den Berg. Their study begins to link distributional considerations with cooperation in a behavioral perspective (D'Exelle and van den Berg, 2013). The study is motivated by the purpose of understanding how allocating aid distribution to communities affects the overall value of resources and their distribution. The authors conducted a two stage game in the field in rural Nicaragua. In the first stage, players are given an endowment and asked to contribute to a public pool from that endowment. In the second stage, the common pot is distributed according to different rules. It is found that when the pool is distributed by the highest contributor, the contributions to the pool are higher than when the rule is that the pool will be distributed equally. However, it is also found that the highest contributors, when given the common pool to distribute, do not keep it all to themselves. They seem to have fairness considerations strongly in mind—they give higher amounts to those with lower endowments, and lower amounts to those who contributed relatively small amounts to the pool.

The final three papers in the Special Issue continue in the direction of linking distributional considerations with the behavioral perspective. The paper by Malte Luebker, "Income Inequality, Redistribution and Poverty: Contrasting Rational Choice and Behavioral Perspectives," looks at the issue at the macro level. He investigates the determinants of redistribution at the national level (Luebker, 2013). A standard view, based on rational choice and the median voter theorem in rational choice political economy, is that redistribution will be high when inequality is high. However, the literature has not found clear empirical support for this

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relationship, and this is again confirmed by the author's analysis. Luebker then investigates whether directly elicited information on "support for redistribution" through the International Social Survey Programme can better explain the extent of redistribution in countries, and he argues that it can.

The last two papers in the Special Issue turn to the more specific question of measures of inequality and poverty from a behavioral perspective. In particular, they investigate the implications of prospect theory as a behavioral model of decision making under uncertainty. The paper "Poverty, Vulnerability, and Reference-Dependent Utility," by Isabel Günther and Johannes Maier, uses reference dependent models of decision making to construct alternative measures of intertemporal poverty and vulnerability (Günther and Maier, 2013). In their analysis, individuals' wellbeing depends not only on their current income but also on a gain/loss part (the difference between current income and a reference level). Loss aversion is a key aspect of the alternative construct, where gains and losses relative to a reference level of consumption are valued differently. They use a simple example of numerical time paths of consumption to illustrate how their measure of poverty and vulnerability compares with standard measures and other measures in the literature.

The final paper in the Special Issue, "Poverty and Welfare Measurement on the Basis of Prospect Theory," by Markus Jäntti, Ravi Kanbur, Milla Nyyssölä, and Jukka Pirttilä, extends the analysis of the previous paper and builds poverty and inequality measurement on a new notion of equivalent income (Jäntti *et al.*, 2013). This is the income level with which individuals would be as well off using a standard concave utility function as they actually are, evaluated with a utility function which captures key elements of Prospect Theory. It is shown, for example, that simply reshuffling incomes will increase the new measure of poverty, while it will of course leave the standard measure unchanged. The paper then estimates the new measures of inequality and poverty using panel data for Russia and for Vietnam, and compares them with estimates of the standard measures on the same data. They find, for example, that in Vietnam, while conventionally measured inequality fell, inequality measured on the basis of Prospect Theory actually rose. The behavioral perspective thus matters empirically, and policy makers and analysts would do well to pay attention.

The papers in this Special Issue illustrate the contribution that behavioral economics can make to the study of poverty and development. We hope that the Special Issue as a whole highlights this as a vibrant topic of investigation and policy focus, and that it will serve to encourage further work in this important area of research.

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